

***IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES***

Application No. : 10/637,608
Applicants/Appellants : FLYNN, *ET AL.*
Filed : AUGUST 11, 2003
Title : HYDROGEN ODORANTS AND
ODORANT SELECTION METHOD

Art Unit : 1754
Examiner : LANGEL, WAYNE A.

Atty Docket No. : ENER-0001-UT1

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Commissioner for Patents

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APPELLANTS' REPLY BRIEF UNDER 37 CFR § 41.41

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I. REAL PARTY IN INTEREST

The real party in interest is Enersol, Inc., the assignee of the present application.

II. RELATED APPEALS AND INTERFERENCES

There are currently no appeals or interferences known to Appellants, Appellants' legal representative, or the assignee that will directly affect, be directly affected by, or have a bearing on, the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1, 5-6, 12-14, 16, 19-20, 28-30, 32, 35-36, 42-44 have been cancelled. Claims 15, 17-18, 21-27, 31, 33-34, 37-41, 54-58, 60 and 61 have been withdrawn.

Claims 2-4, 7-11, 47-53 and 59 are currently pending and are the only rejected claims on appeal. Currently pending Claims 45 and 46 have been deemed to be allowable if rewritten in independent form. A clean copy of Claims 2-4, 7-11, 47-53 and 59 on appeal appears in the attached Claims Appendix.

IV. STATUS OF AMENDMENTS

No amendments have been filed since the Final Action of December 20, 2005.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Appellants' claimed invention relates to a hydrogen composition comprising: hydrogen and an odorant that is a selenium compound. The selenium odorant has a vapor pressure greater than 0.5 psi, has a smell detectable at less than 1 ppm by a human nose, and is in a vapor phase at a detectable concentration at a pressure of 6000 psi (see Claim 2, and the specification at paragraphs [0010] and [0066]¹). Embodiments of Appellants' claimed invention include:

1. A hydrogen composition consisting essentially of hydrogen gas and the selenium odorant (see Claim 7, and the specification at paragraphs [0010] and [0066]).

¹For convenience, all paragraph references in the present Appeal Brief are to United States Published Patent Application No. 2004/0031314.

2. The selenium odorant being from 0.01 to 1000 ppm of the composition (see Claim 8) with the odorant comprising 0.1 to 40 ppm of the composition (see Claim 9).
3. The selenium odorant not being harmful to humans (see Claim 10).
4. A hydrogen composition, wherein the selenium odorant has a minimum olfactory power of 7.0, a minimum vapor pressure of 0.5 psi at standard temperature and pressure, a minimum diffusivity of $0.01147 \text{ cm}^2/\text{s}$, and a maximum molecular weight of 200 g/mol (see Claim 11).
5. The selenium compound being specifically ethylselenol (see Claim 3), dimethyl selenide (see Claim 4), methylselenol (see Claim 47), isopropylselenol (See Claim 48), propylselenol (see Claim 49), ethylmethylselenide (see Claim 50), isopropylmethylselenide (see Claim 51), tertbutylselenol (see Claim 52), or diethylselenide (see Claim 53). See also Table 11 of paragraph [0129] of the specification.
6. The selenium compound being in a vapor phase at a pressure greater than ambient pressure (see Claim 59).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

There are currently four grounds of rejection for which review has been requested on this appeal. Appellants acknowledge, as indicated in Section (6) of the Supplemental Examiner's Answer of April 8, 2008 (Supplement Examiner's Answer), that the rejection of Claim 59 under 35 U.S.C. § 112, first paragraph has been withdrawn. The remaining grounds of rejection are:

- A. The first ground of rejection is whether Claims 2-4, 7-11, 47-53 and 59 are unpatentable under 35 U.S.C. § 103(a) over French Patent 2,645,622 ("FR '622), in view of U.S. Patent No. 1,642,953 to Prentice ("Prentice");

B. The second ground of rejection is whether Claims 2, 7-11 and 59 are unpatentable under 35 U.S.C. § 103(a) over FR '622, in view either U.S. Patent No. 5,221,545 to Borschel *et al.* ("Borschel") or U.S. Patent No. 4,496,639 to Rasmussen *et al.* ("Rasmussen").

C. The third ground of rejection is whether Claims 2, 3, 7-11, 47-49, 52 and 59 are unpatentable under 35 U.S.C. § 103(a) over FR '622, in view of U.S. Published Application No. 2002/0197304 A1 to Schrauzer ("Schrauzer").

D. The fourth ground of rejection is whether Claims 2, 4, 7-11, 50, 51, 53 and 59 are unpatentable under 35 U.S.C. § 103(a) over FR '622, in view of U.S. Patent No. 4,656,038 to Baugh ("Baugh").

VII. ARGUMENT

There are seven issues raised in pages 5-7 of Section 10 of the Supplemental Examiner's Answer that necessitate an additional response by Appellants regarding the rejections of Claims 2-4, 7-11, 47-53 and 59 under 35 USC § 103(a) as unpatentable over FR '622 in view of: Prentice, Borschel or Rasmussen, Schrauzer, and Baugh. These issues relate to: (1) the Examiner's continuing failure to provide a properly requested Affidavit/Declaration under 37 C.F.R. § 1.104(d)(2); (2) the Examiner's failure to provide citations to FR '622 supporting the Examiner's rejections of Claims 2-4, 7-11, 47-53 and 59 over FR '622; (3) the Examiner's arguments for maintaining his rejections of Claims 2-4, 7-11, 47-53 and 59 being based on allegations in the Supplemental Examiner's Answer that directly and improperly contradict the conclusions of the July 24, 2004 Restriction Requirement (Restriction Requirement); (4) the Examiner's failure in the Supplemental Examiner's Answer to remedy the Final Action's failure to make a *prima facie* case of obviousness; (5) the Examiner's failure in the Supplemental Examiner's Answer to remedy the Final Action's failure to show why FR '622 suggests that a non-sulfur-containing compound may be used; (6) the Examiner's failure in the Supplemental Examiner's Answer to remedy the Final Action's failure to identify where FR '622 teaches or suggests the use of a even one odorous product that does not contain sulfur; and (7) the Examiner's failure in the Supplemental Examiner's Answer to remedy the Final Action's failure to properly show how FR '622 would motivate someone of ordinary skill in the art to use selenium compounds. The arguments presented below are in addition to the arguments set forth in Appellants' Appeal Brief.

A. The Examiner Has Failed to Provide a Properly Requested Affidavit/Declaration Under 37 C.F.R. § 1.104(d)(2)

In Supplemental Examiner's Answer, the Examiner argues that he does not have to provide the Affidavit/Declaration under 37 C.F.R. § 1.104(d)(2) requested by Appellants, because the Examiner alleges that "there are no facts based on the examiner's personal

knowledge which are used as a basis of the rejection.”² But to the contrary, in requesting that the Examiner provide an Affidavit/Declaration under 37 C.F.R. § 1.104(d)(2) in their October 27, 2005 Amendment (October 2005 Amendment), the Appellants identified those facts within the Examiner's personal knowledge that have been used to reject Claims 2-4, 7-11, 47-53 and 59 in Section E of their October 2005 Amendment, as quoted below:

Section E of October 2005 Amendment

The Examiner has based all of his rejections of the claims on the following allegation that is unsupported by any factual evidence provided by the Examiner:

. . . FR '622 suggests in the Abstract that any odorous product may be added (See Office Action, p. 2, paragraphs 3 and 4, the paragraph bridging p.2 and p. 3, and p. 3, first full paragraph).

The Examiner alleges that:

In this case there are no facts based on the examiner's personal knowledge which are used as a basis for the rejection (See Office Action, p. 3)

However, the above allegation by the Examiner is simply untrue. As discussed above and repeatedly pointed out by Applicants during the prosecution of the present application, the Examiner continues to allege that FR '622 teaches non-sulfur odorant compounds while simultaneously failing to tell Applicants what non-sulfur odorant compounds are taught by FR '622. Every compound described in the Abstract of FR '622 is a sulfur compound.

The Examiner has also provided no factual support in FR '622 for the following allegation by the Examiner that has also been used as a basis for rejecting claims 2-4, 7-11 and 47-53:

Applicants' argument, that the Examiner has “admitted” that selenium compound are patentably distinct from sulfur compounds is not convincing, since the teachings of FR '622 are not limited to the use of sulfur compounds (see Office Action, p. 3).

Because the Examiner has provided Applicants with no factual support for the Examiner's allegations that FR '622 teaches and suggests [non-sulfur] compounds, Applicants can only presume that the Examiner knows of factual

² See Supplemental Examiner's Answer, p. 6, second full paragraph.

evidence in FR '622 that the Examiner, to date, has not provided to the Applicants.³

In fact, the Examiner has also continued to argue that FR '622 teaches and/or suggests non-sulfur compounds, but has yet to identify a single non-sulfur compound that is taught in FR '622. In addition, in attempting, to justify the Examiner's failure to provide an Affidavit/Declaration under 37 C.F.R. § 1.104(d)(2), the Supplemental Examiner's Answer mischaracterizes the rejections of Claims 2-4, 7-11, 47-53 and 59, as well as what is taught by FR '622, as shown by the following allegation from the Supplemental Examiner's Answer:

Allegation 1

In this case there are no facts based on the examiner's personal knowledge which are used as a basis for rejection, since the rejections are based entirely on the prior art references which are public knowledge, and not "personal" knowledge. The prior art references speak for themselves.⁴

However, contrary to what is alleged Allegation, the FR '622 does not speak for itself in the rejections of Claims 2-4, 7-11, 47-53 and 59. Instead, the Examiner speaks on behalf of FR '622. Speaking on behalf of FR '622 in Allegation 1, the Examiner alleges, based on facts known only to him, but not properly provided to Appellants, that FR '622, teaches and suggests non-sulfur-containing compounds, despite the fact that the Examiner has also failed to identify a single non-sulfur-containing compound in FR '622. Further evidence that the Examiner speaks on behalf of FR '622 is that, to date, the Examiner has failed to cite single portion of FR '622 in rejecting Claims 2-4, 7-11, 47-53 and 59 over FR '622. In rejecting Claims 2-4, 7-11, 47-53 and 59 over FR '622. The Examiner has only cited to and relied on the English Abstract of FR '622, not to FR '622 itself, despite the fact that M.P.E.P. § 706.02(II) and the Board's holding in *Ex parte Jones*, 62 USPQ2d 1206 (Bd. Pat. App. & Inter. 2001) (unpublished), which requires the Examiner to cite to and rely on a translation of the foreign language reference FR '622 and not merely cite to and rely on the English Abstract for FR '622. Appellants' counsel even conducted an Examiner Interview with Examiner Langel on March 12, 2008 (Examiner Interview) during which Appellants' counsel requested the Examiner to provide Appellants with an English

³ See October 2005 Amendment, Section E, pp. 29-30.

⁴ See Supplemental Examiner's Answer, p. 6, second full paragraph.

translation of FR '622 prior the Appellants filing a Reply to the Examiner's March 10, 2008 Examiner's Answer or to withdraw the rejections Claims 2-4, 7-11, 47-53 and 59 over FR '622. Nevertheless, the Examiner failed to provide an English translation of FR '622 with the Supplemental Examiner's Answer that essentially duplicates the rejections and arguments of the March 10, 2008 Examiner's Answer.

On April 28, 2008, twenty (20) days after the Supplemental Examiner's Answer was mailed to Appellants, the Examiner finally provided Appellants with a copy of a translation of FR '622. But the English translation of FR '622 provided by the Examiner, just like the English Abstract for FR '622, fails to mention a single non-sulfur containing compound.

For at least the above reasons, Appellants' request for an Affidavit/Declaration under 37 C.F.R. § 1.104(d)(2) in their October 2005 Amendment was proper.

Appellants also note that in the unpublished case of *In re Sun*, 31 USPQ2d 1451, 1455 (Fed. Cir. 1993), the USPTO argued "the procedures established by 37 C.F.R. Section 1.107(b) (1993) [now 37 C.F.R. § 1.104(d)(2)] *expressly entitle* an Applicant, on mere request, to an examiner affidavit that provides [citations that support the Examiner's asserted level of skill in the art]" (emphasis added). Furthermore, in *In re Sun*, the Federal Circuit, held that "this procedure, so readily available, helps save the lack of citation in an office action from possible constitutional infirmity in denying reasonable notice and hence due process."⁵ Accordingly, the Examiner's failure to comply with 37 C.F.R. § 1.104(d)(2) has also denied the Appellants their statutory rights under the Administrative Procedures Act, as well as their Constitutional rights under the Fifth Amendment, to reasonable notice and due process.

Therefore, because the Examiner has failed to provide Appellants with a properly requested Affidavit/Declaration under 37 C.F.R. § 1.104(d)(2) in response to Appellants' request for such an Affidavit in their October 2005 Amendment, the rejections of Claims 2-4, 7-11, 47-53 and 59 under 35 USC § 103(a) as unpatentable over FR '622 in view of: Prentice, Borschel or Rasmussen, Schrauzer, and Baugh are *prima facie* improper.

⁵ See 31 USPQ2d at 1455.

B. The Examiner Has Failed to Provide Citations to FR '622 Supporting the Examiner's Rejections of Claims 2-4, 7-11, 47-53 and 59 over FR '622

Related to the failure of the Examiner to provide Appellants with a properly requested Affidavit/Declaration under 37 C.F.R. § 1.104(d)(2), is the Examiner's failure to cite any portion of FR '622 in rejecting Claims 2-4, 7-11, 47-53 and 59 under 35 USC § 103(a) as unpatentable over FR '622 in view of: Prentice, Borschel or Rasmussen, Schrauzer, and Baugh. As repeatedly pointed out by Appellants during the prosecution of the present application, the Examiner continues to allege that FR '622 teaches non-sulfur odorant compounds while simultaneously failing to tell Appellants what non-sulfur odorant compounds are taught by FR '622.⁶ For example, in the Reply Brief, the Examiner continues to make the following allegations:

Allegation 2

FR '622 discloses in the English Abstract that an odorous gaseous product is added, "such as a mercaptan, a thiophane, or a product known under the name "TBM". Since the reference uses the phrase "such as" as mercaptan . . . , it is clear the reference contemplates other odorous gaseous products, which would include the selenium compounds recited in appellants' claims.⁷

Allegation 3

. . . FR '622 is not limited to the use of sulfur compounds, in view of the phrase "such as" in the English Abstract.⁸

But to date the Examiner has failed cited a single section of FR' 622 to support Allegations 2 and 3 that FR' 622 suggests the use of non-sulfur compounds. In fact, the Examiner has never cited a single portion of FR '622 to support the Examiner's rejections of Claims 2-4, 7-11, 47-53 and 59 under 35 USC § 103(a) as unpatentable over FR '622 in view of: Prentice, Borschel or Rasmussen, Schrauzer, and Baugh. The Examiner has only cited to and

⁶ See for example: Appellants' January 21, 2005 Amendment, paragraph bridging pp. 7-8; Appellants' June 23, 2005 Appeal Brief, Argument, Section A(4), p. 9; Appellants' October 2005 Amendment, Section A(2)(a), pp. 10-12 and Section B(1)(a) pp. 14; Appellants' January 12, 2006 Request for Pre-Appeal Brief Review, Sections A, B and C, pp. 1-2; and Appellants' September 25, 2006 Appeal Brief, Section VII(A)(7), p. 12.

⁷ See Supplemental Examiner's Answer, paragraph bridging pp.7- 8.

⁸ See Supplemental Examiner's Answer, p. 8, first full paragraph.

relied the English Abstract of FR' 622 to reject Claims 2-4, 7-11, 47-53 and 59 over FR '622, as the Examiner once again does in Allegations 2 and 3.

Not only has the Examiner failed to cite a single portion of FR' 622 to support the Examiner's interpretation of "such as" in Allegations 2 and 3, but has also failed to show that FR '622 teaches or suggests the use of a single non-sulfur compound much less a selenium compound as alleged in Allegations 2 and 3. Appellants also note that not a single non-sulfur compound is mentioned in the English translation of FR '622 provided to the Appellants by the Examiner.

For at least the reasons discussed above, the rejections of Claims 2-4, 7-11, 47-53 and 59 under 35 USC § 103(a) as unpatentable over FR '622 in view of: Prentice, Borschel or Rasmussen, Schrauzer, and Baugh are *prima facie* improper and should be withdrawn.

C. The Examiner's Rejections of Claims 2-4, 7-11, 47-53 and 59 are Based on Allegations that Directly and Improperly Contradicts the Conclusions of the Restriction Requirement

The Examiner's rejections of Claims 2-4, 7-11, 47-53 and 59 as unpatentable over FR '622, in view of: Prentice, Borschel or Rasmussen, Schrauzer, and Baugh, are based on allegations that directly and improperly contradict the conclusions of the Restriction Requirement that was issued by the Examiner. Nevertheless, the Supplemental Examiner's Answer makes the following allegations that: (a) mischaracterize what the Examiner stated in the Restriction Requirement; (b) mischaracterize what is disclosed in the FR '622 reference; (c) mischaracterize the Examiner's current positions in regard to selenium compounds being patentably distinct from sulfur compounds; and (d) attempt to support the rejections of Claims 2-4, 7-11, 47-53 and 59 based on reasoning that improperly contradicts the conclusions of the Restriction Requirement:

Allegation 4

The reasoning in the rejection is not inconsistent with the reasoning for the restriction requirement, since the restriction requirement was based on the premise that the various odorous gaseous are separate and distinct species, whereas the rejection is based on the premise that it would be obvious to utilize

any known odorous gaseous product in the method of FR '622, since FR '622 discloses in the English Abstract that "an odorous gaseous product" is added.⁹

Allegation 5

In any event, the examiner is not bound by positions taken in previous actions.¹⁰

Allegation 5 implies that the Examiner is not bound by the Examiner's conclusion in the Restriction Requirement that the claimed use of selenium compounds, methylamine or trimethylamine, oxygen compounds and nitrogen compounds in the present invention are patentably distinct from the use of sulfur compounds,¹¹. Allegation 5 is erroneous for several reasons:

1. The Examiner's position in the Restriction Requirement that the claimed use of the selenium compounds is patentably distinct from the use of sulfur compounds is not merely a position taken in a previous action. In fact, the Examiner has maintained the Restriction Requirement for over two years and continues to maintain the Restriction Requirement. In other words, the Examiner's position in the Restriction Requirement that the claimed use of the selenium compounds is patentably distinct from the use of the sulfur compounds remains the Examiner's current position.
2. The Examiner's conclusion in the Restriction Requirement that the claimed use of the selenium compounds is patentably distinct from the use of sulfur compounds is evidence, so far un rebutted, that a person of at least ordinary skill in the art, *i.e.*, the Examiner, would consider the claimed use of the selenium compounds to be non-obvious over the claimed use of the sulfur compounds.
3. The Examiner has so far failed to provide any substantial evidence to rebut the conclusion he made in the Restriction Requirement, and that he continues to

⁹See Supplemental Examiner's Answer, paragraph bridging pp. 6-7.

¹⁰See Supplemental Examiner's Answer, p. 7, fourth and fifth line.

¹¹See Restriction Requirement, p. 4.

assert by maintaining the Restriction Requirement, that the claimed use of the selenium compounds is patentably distinct from the use of sulfur compounds. Also, the English Abstract of FR '622, the primary reference that the Examiner has relied on in rejecting Claims 2-4, 7-11, 47-53 and 59, is entirely consistent with the Examiner's position that the claimed use of the selenium compounds is patentably distinct from the use of sulfur compounds. The English Abstract of FR '622 only describes the use of sulfur compounds as odorants and does not teach or suggest the use of selenium compounds as odorants.

Allegation 4 also mischaracterizes what is disclosed in FR '622 by only quoting selectively from the English Abstract of FR '622. The English Abstract of FR '622 does not merely say that "an odorous gaseous is added," but instead that "an odorous gaseous is added *such as a mercaptan, a thiophane, or product known under the name 'TBM.'*"¹² Contrary to the implied mischaracterization of the English Abstract of FR '622 in Allegation 4, the English Abstract of FR '622 only describes the use of three types of sulfur compounds. The English translation of FR '622 also only describes the use of three types of sulfur compounds.

In addition, as discussed above, in the Restriction Requirement, the Examiner concluded that the claimed use of the selenium compounds was patentably distinct from the use of sulfur compounds. In rejecting Claims 2-4, 7-11, 47-53 and 59 over FR '622, the Examiner now takes the inconsistent view that FR '622, a reference that, based on the English Abstract and the English translation of FR '622, only describes the use of three types of sulfur compounds, would make it obvious to use the selenium compounds. Contrary to what is stated or implied in Allegation 4, the reasoning in the rejections of Claims 2-4, 7-11, 47-53 and 59 over FR '622 directly and improperly contradicts the Examiner's conclusion in the Restriction Requirement.

D. The Supplemental Examiner's Answer Still Fails to Properly Make a *Prima Facie* Case of Obviousness

The Examiner makes the following unsupported allegation in Supplemental Examiner's Answer:

¹² See FR '622 English Abstract, emphasis added.

Allegation 6

Appellants' argument that the rejection of claims 2-4, 7-11, 47-53 and 59 are based on the improper grounds that the examiner believes that he can reject claims under 35 USC 103 without making a prima facie case of obviousness, is not convincing since a prima facie case of obviousness has been made. The burden is on appellants to rebut such prima facie case.¹³

The Examiner's incanting that a "*prima case* of obviousness has been made" does not make it so. Contrary to Allegation 6, in the Appellants' Appeal Brief, Appellants provided numerous reasons why the Examiner has failed to make a *prima facie* case of obviousness, none of which have been successfully rebutted by the Supplemental Examiner's Answer:

1. The Examiner has failed to comply with 37 C.F.R. § 104(d)(2).¹⁴
2. The rejections of Claims 2-4, 7-11, 47-53 and 59 are based on reasoning that directly contradicts the conclusions of the Restriction Requirement.¹⁵
3. The rejections of Claims 2-4, 7-11, 47-53 and 59 are based on reasoning that contradicts the conclusions reached in the Non-Elected Invention Determination of the Final Action.¹⁶
4. The rejections of Claims 2-4, 7-11, 47-53 and 59 are based on a mischaracterization the Appellants arguments during prosecution of the present application.¹⁷
5. The rejections of 2-4, 7-11, 47-53 and 59 are based on a mischaracterization of what FR' 622 teaches and suggests.¹⁸

¹³ See Supplemental Examiner's Answer, p.7, first full paragraph.

¹⁴ See Appeal Brief, Argument, A(1), p. 5.

¹⁵ See Appeal Brief, Argument, A(2), pp. 5-7.

¹⁶ See Appeal Brief, Argument, A(3), pp. 7-8.

¹⁷ See Appeal Brief, Argument, A(5), pp. 9-10.

¹⁸ See Appeal Brief, Argument, A(6), pp. 10-11.

6. The failure of the Final Action to comply with 37 C.F.R. § 1.104(c)(2).¹⁹
7. The rejection of Claims 2-4, 7-11, 47-53 and 59 over the combination of Prentice with FR '622 is *prima facie* improper because the Final Action has provided no proper motivation for combining Prentice with FR '622.²⁰
8. The rejection of Claims 2, 7-11 and 59 over the combination of Borschel or Rasmussen with FR '622 is *prima facie* improper because the Final Action has provided no proper motivation for combining Borschel or Rasmussen with FR '622.²¹
9. The rejection of Claims 2, 3, 7-11, 47-49, 52 and 59 over the combination of Schrauzer with FR '622 is *prima facie* improper because the Final Action has provided no proper motivation for combining Schrauzer with FR '622.²²
10. The rejection of Claims 2, 4, 7-11, 50, 51, 53 and 59 over the combination of Baugh with FR '622 is *prima facie* improper because the Final Action has provided no proper motivation for combining Baugh with FR '622.²³

For at least the reasons discussed above in the Appellants' Appeal Brief, and contrary to what is alleged in the Supplemental Examiner's Answer, the Examiner has failed to properly make a *prima facie* case of obviousness with respect to any of the rejections of 2-4, 7-11, 47-53 and 59 over FR '622 FR '622 in view of: Prentice, Borschel or Rasmussen, Schrauzer, and Baugh.

E. Contrary to What the Supplemental Examiner's Answer Alleges, FR' 622 Does Not suggest that a Non-Sulfur-Containing Compound May Be Used

¹⁹ See Appeal Brief, Argument, A(7), p. 11.

²⁰ See Appeal Brief, Argument, B(2), pp. 15-18.

²¹ See Appeal Brief, Argument, C(2), pp. 22-24.

²² See Appeal Brief, Argument, D(2), pp. 28-30.

²³ See Appeal Brief, Argument, E(2), pp. 33-35.

The following unsupported allegations in the Supplemental Examiner's Answer mischaracterize what is disclosed in FR '622 and improperly argue that other references may be combined with FR '622 based on an "obvious to try" standard:

Allegation 7

FR' 622 discloses in the Abstract that "an odorous gaseous product is added."²⁴

Allegation 8

One of ordinary skill in the art could determine through routine experimentation which odorous gaseous products would function in the process of FR' 622.²⁵

Allegation 9

The fact that certain odorous gaseous products would be impractical in the method of FR '622 does not render nugatory the fact that many would not be impractical, and it would be within the ordinary skill in the art to determine which gases would function in the process.²⁶

Allegation 7 mischaracterizes what is disclosed in English Abstract of FR '622 by only quoting selectively from the English Abstract of FR '622. The English Abstract of FR '622 does not merely state that "an odorous gaseous is added," but instead states that "an odorous gaseous is added *such as a mercaptan, a thiophane, or product known under the name 'TBM.'*"²⁷ Not only has the Examiner failed to cite a single portion of FR' 622 to support the Examiner's interpretation of "such as" in Allegation 7, but the Examiner has failed to show that FR '622 teaches or suggests the use of a single non-sulfur compound much less a selenium compound as alleged in Allegation 7. In fact, the Examiner has failed to show that the phrase "*an odorous product such as* a mercaptan, a thiophane, or a product known under the name TBM" is even used in FR '622, because the Examiner has only cited to the English Abstract for FR '622 and not to FR' 622 itself (emphasis added).

²⁴ See Supplemental Examiner's Answer, p. 7, 2nd full paragraph.

²⁵ See Supplemental Examiner's Answer, p. 7, 2nd full paragraph.

²⁶ See Supplemental Examiner's Answer, p. 7, 2nd full paragraph.

²⁷ See FR '622 English Abstract, emphasis added.

Allegation 8 is unsupported by any cited reference or other facts provided to the Appellants by the Examiner. Therefore, Appellants hereby requests that: (a) the Examiner withdraw the Final Rejection of 2-4, 7-11, 47-53 and 59 and re-open the prosecution to provide Appellants with an Affidavit/Declaration under 37 C.F.R. § 1.104(d)(2) that provides facts supporting Allegation 8; or (b) the Board must conclude that the rejections of Claims 2-4, 7-11, 47-53 and 59 are *prima facie* improper, because they are based on factually unsupported reasoning.

Allegation 9 is also unsupported by any cited reference or other facts provided to the Appellants by the Examiner. Therefore, Appellants hereby requests that: (a) the Examiner withdraw the Final Rejection of 2-4, 7-11, 47-53 and 59 and re-open the prosecution to provide Appellants with an Affidavit/Declaration under 37 C.F.R. § 1.104(d)(2) that provides facts supporting Allegation 9; or (b) the Board must conclude that the rejections of Claims 2-4, 7-11, 47-53 and 59 are *prima facie* improper, because they are based on factually unsupported reasoning.

In addition, with respect to Allegations 8 and 9 the Examiner has failed to cite a single portion of FR '622 in rejecting Claims 2-4, 7-11, 47-53 and 59 over FR '622. In Allegations 8 and 9, the Examiner has only cited to and relied on the English Abstract of FR '622, not to FR '622 itself, despite the fact that M.P.E.P. § 706.02(II) and the Board's holding in *Ex parte Jones*, 62 USPQ2d 1206 (Bd. Pat. App. & Inter. 2001) (unpublished) requires the Examiner to cite to and rely on a translation of the foreign language reference FR '622 and not merely cite to and rely on the English Abstract for FR '622. Therefore, the Examiner's improper reliance on Allegations 8 and 9 in rejecting Claims 2-4, 7-11, 47-53 and 59 over FR '622 view of: Prentice, Borschel or Rasmussen, Schrauzer, and Baugh makes these rejections *prima facie* improper.

Also, in Allegations 8 and 9, the Examiner has not identified any criteria set forth in FR '622, or any other reference, that could be used by a person of ordinary skill in the art to determine which gaseous products could be used in place of the sulfur compounds described in the English Abstract of FR '622. Although not specifically researched, Appellants reasonably believe there may be tens of thousands, if not hundreds of thousands, of odorous gaseous compounds *i.e.*, gaseous compounds that have an odor, including the highly toxic compounds described in Appellants' Appeal Brief.²⁸ In fact, any mixture, in any proportion, of an odorous

²⁸ See Appeal Brief, pp. 10-11.

gaseous compound with one or more gaseous compounds, either odorous or odorless, would also provide an "odorous gaseous product." Therefore, there are an infinite number of gaseous products that would qualify as an "odorous gaseous product." In other words, Allegations 8 and 9 from the Supplemental Examiner's Answer make the absurd argument that a person of ordinary skill in the art would be able to determine through "routine experimentation" which of an infinite number of odorous gaseous products could be used in place of the sulfur compounds of FR '622.

In essence, the Supplemental Examiner's Answer argues in Allegations 7, 8 and 9 above that it be "obvious to try" any of an infinite number of odorous gaseous products in place of the sulfur compounds of FR '622. M.P.E.P. § 2143(E) requires an Examiner to articulate the following findings to reject a claim based on an "obvious to try rationale:

M.P.E.P § 2143(E)

E. "Obvious To Try" – Choosing From a Finite Number of Identified, Predictable Solutions, With a Reasonable Expectation of Success

To reject a claim based on this rationale, Office personnel must resolve the *Graham* factual inquiries. Then, Office personnel must articulate the following:

(1) a finding that at the time of the invention, there had been a recognized problem or need in the art, which may include a design need or market pressure to solve a problem;

(2) a finding that there had been a ***finite number of identified, predictable potential solutions to the recognized need or problem***;

(3) a finding that one of ordinary skill in the art could have pursued the known potential solutions with a reasonable expectation of success; and

(4) whatever additional findings based on the *Graham* factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness (emphasis added).

But the Examiner has failed to articulate findings (1), (2), (3) or (4) above. In particular, the Examiner has failed to make a finding that at the time the claimed invention was made that there had been a finite number of identified, predictable potential solutions to the recognized need or problem. Accordingly, the Examiner has failed to comply with the all of the requirements that are necessary under of M.P.E.P. § 2143(E) to make a rejection based on an "obvious to try" rationale.

Therefore, Allegations 7, 8 and 9 in the Supplemental Examiner's Answer rely on a rationale for rejecting Claims 2-4, 7-11, 47-53 and 59 that is *prima facie* improper and the

rejections of 2-4, 7-11, 47-53 and 59 over FR '622 in view of: Prentice, Borschel or Rasmussen, Schrauzer, and Baugh should be withdrawn.

F. Contrary to What the Supplemental Examiner's Answer Alleges, the Final Action Has Failed to Identify Where FR '622 Teaches or Suggests the Use of Even One Odorous Product that Does Not Contain Sulfur

The following unsupported allegation in the Supplemental Examiner's Answer also mischaracterizes what is disclosed in FR '622 and is also inconsistent with the Examiner's conclusion in the Restriction Requirement:

Allegation 10

FR' 622 discloses in the English Abstract that "an odorous product is added, "such as" a mercaptan, a thiophane, or a product known under the name "TBM". Since the reference uses the phrase "such as" a mercaptan . . . it is clear that the reference contemplates other odorous gaseous products, which would include the selenium compounds recited in appellants' claims.²⁹

Allegation 10 mischaracterizes what is disclosed in FR '622 by putting too great an emphasis on the use of the words "such as" while ignoring the fact that: (a) the phrase "such as" is used in a listing that only includes sulfur compounds; (b) only sulfur compounds are described in FR '622; (c) the Examiner has already admitted in the Restriction Requirement that selenium compounds are patentably distinct from sulfur compounds; and (d) the Examiner has failed to show that the phrase "*an odorous product such as* a mercaptan, a thiophane, or a product known under the name TBM" is even used in FR '622, because the Examiner has only cited to the English Abstract for FR '622 and not to FR' 622 itself (emphasis added).

In fact, to date, the Examiner has failed to identify a single non-sulfur-containing compound in the English Abstract of FR '622, or in FR '622 itself, despite the Appellants Request in their October 2005 Amendment that the Examiner provide an Affidavit/Declaration

²⁹ See Supplemental Examiner's Answer, paragraph bridging pp. 7-8.

under 37 C.F.R. § 1.104(d)(2) identifying non-sulfur-containing compounds in FR '622.³⁰ In addition, the Examiner, a person of at least ordinary skill in the art, has concluded in the Restriction Requirement that selenium compounds are patentably distinct from sulfur compounds.³¹ No evidence so far provided by the Examiner has rebutted his conclusion in the Restriction Requirement. In fact, both the English Abstract of FR '622 and the English translation of FR '622 provided by the Examiner, by only describing the use of sulfur compounds, actually support the Examiner's conclusion in the Restriction Requirement that selenium compounds, as well as other types of odorous compounds, are patentably distinct from odorous sulfur compounds. Therefore, and contrary to what the Supplemental Examiner's Answer alleges, the English Abstract of FR '622 and the English translation of FR '622 do not teach or suggest the use of selenium compounds, or provide motivation to one of ordinary skill in the art to consider references describing sulfur compounds only as being relevant to the claimed use of selenium compounds.

G. The Supplemental Examiner's Answer Fails to Properly Show How FR '622 Would Motivate Someone of Ordinary Skill in the Art to Use Selenium Compounds.

The following unsupported allegation in the Supplemental Examiner's Answer mischaracterizes what is disclosed in FR '622, is inconsistent with the Examiner's conclusion in the Restriction Requirement, and improperly argues that references may be combined with FR '622 based on an "obvious to try" standard:

Allegation 11

One of ordinary skill in the art would be motivated to employ such odorous selenium compounds in the process of FR '622, since it would be within the skill of one of ordinary skill in the art to determine which odorous compounds would function in the process of FR '622, and, since FR '622 is not limited to the

³⁰ See October Amendment, Section E, pp. 29-30.

³¹ See Restriction Requirement, p. 4.

use of sulfur compounds, in view of the phrase "such as" in the English Abstract.³²

Contrary to Allegation 11, a person of ordinary skill in the art would not be motivated by FR '622 to use selenium compounds. As discussed above regarding Allegation 10, the Examiner, a person of at least ordinary skill in the art, concluded in the Restriction Requirement that selenium compounds are patentably distinct from sulfur compounds.³³ To date, the Examiner has provided no evidence that rebuts this conclusion.

In fact, the level of skill of one of ordinary skill in the art suggested by Allegation 11 in determining compounds that would function in the process of FR '622 is unsupported by any cited reference or other facts provided to the Appellants by the Examiner. Therefore, Appellants hereby requests that: (a) the Examiner withdraw the Final Rejection of 2-4, 7-11, 47-53 and 59 and re-open the prosecution to provide Appellants with an Affidavit/Declaration under 37 C.F.R. § 1.104(d)(2) that provides facts supporting Allegation 11; or (b) that the Board conclude that the rejections of Claims 2-4, 7-11, 47-53 and 59 is *prima facie* improper, because they are based on factually unsupported reasoning.

In addition, as discussed in Section VII(E) above, the Supplemental Examiner's Answer still has not identified any criteria set forth in FR '622, or any other reference, that could be used by a person of ordinary skill in the art to determine which gaseous products could be used in place of the sulfur compounds of English Abstract of FR '622. Put differently, there are an infinite number of gaseous products that would qualify as "an odorous gaseous product." This means that Allegation 11 from the Supplemental Examiner's Answer makes the absurd argument that a person of ordinary skill in the art would be able to determine through "routine experimentation" which of an infinite number of odorous gaseous products could be used in place of the sulfur compounds of FR '622. Allegation 11 also relies on an "obvious to try" rationale that fails to meet the requirements of M.P.E.P. § 2143(E) discussed above in Section VII(E). In particular, the Examiner has failed to make a finding that, at the time the claimed invention was made, that there had been a finite number of identified, predictable potential solutions to the recognized need or problem as required by M.P.E.P. § 2143(E).

³² See Supplemental Examiner's Answer, p.8, first full paragraph.

³³ See Restriction Requirement, p. 4.

Furthermore, Allegation 11 mischaracterizes what is disclosed in English Abstract of FR '622 by putting too great an emphasis on the use of the words "such as" while ignoring the facts that: (a) the phrase "such as" is used in a listing that only includes sulfur compounds; (b) only sulfur compounds are described in FR '622, (c) the Examiner has already characterized in the Restriction Requirement that selenium compounds are patentably distinct from sulfur compounds; and (d) the Examiner has failed to show that the phrase "*an odorous product such as* a mercaptan, a thiophane, or a product known under the name TBM" is even used in FR '622, because the Examiner has only cited to the English Abstract for FR '622 and not to FR '622 itself (emphasis added). In fact, the English Abstract of FR '622, by only describing the use of sulfur compounds, actually supports the Examiner's original conclusion in the Restriction Requirement that selenium compounds, as well as other types of odorous compounds, are patentably distinct from odorous sulfur compounds. Therefore, and contrary to what the Supplemental Examiner's Answer alleges, FR '622 does not teach or suggest the use of selenium compounds, or even provide motivation to one of ordinary skill in the art to look for references describing only sulfur compounds as being relevant to the claimed use of selenium compounds.

SUMMARY OF ARGUMENT AND RELIEF REQUESTED

As discussed above: the Examiner's has failed to provide a properly requested Affidavit/Declaration under 37 C.F.R. § 1.104(d)(2), the Examiner has failed to provide citations to FR '622 supporting the Examiner's rejections of Claims 2-4, 7-11, 47-53 and 59 over FR '622, the Examiner has maintained his rejections of Claims 2-4, 7-11, 47-53 and 59 based on allegations in the Supplemental Examiner's Answer that directly and improperly contradict the conclusions of the Restriction Requirement, the Examiner has failed in the Supplemental Examiner's Answer to remedy the Final Action's failure to make a *prima facie* case of obviousness in the Supplemental Examiner's Answer; the Examiner has failed in the Supplemental Examiner's Answer to remedy the Final Action's failure to show why FR' 622 suggests that a non-sulfur-containing compound may be used, the Examiner has failed in the Supplemental Examiner's Answer to remedy the Final Action's failure to identify where FR '622 teaches or suggests the use of a even one odorous product that does not contain sulfur, and the Examiner has failed in the Supplemental Examiner's Answer to remedy the Final Action's failure to properly show how FR '622 would motivate someone of ordinary skill in the art to use selenium compounds.

Because of the above-discussed failures and improper actions by the Examiner: the rejection of Claims 2-4, 7-11, 47-53 and 59 over FR '622, in view of Prentice, is *prima facie* improper and should be withdrawn, the rejection of Claims 2, 7-11 and 59 over FR '622, in view either Borschel or Rasmussen, is *prima facie* improper and should be withdrawn, the rejection of Claims 2, 3, 7-11, 47-49, 52 and 59 over FR '622, in view of Schrauzer, is *prima facie* improper and should be withdrawn and the rejection of Claims 2, 4, 7-11, 50, 51, 53 and 59 over FR '622, in view of Baugh, is *prima facie* improper and should be withdrawn.

Accordingly, Appellants respectfully request the Honorable Board of Appeals and Interferences to reverse the Examiner's rejections in the Final Action and remand with directions to allow the above application to issue with Claims 2-4, 7-11, 47-53 and 59 currently pending.

Respectfully submitted,

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VIII. CLAIM APPENDIX

2. A hydrogen composition comprising: hydrogen; and an odorant, said odorant having a vapor pressure greater than 0.5 psi and having a smell detectable at less than 1 ppm by a human nose, wherein said odorant is a selenium compound.
3. The composition of claim 2, wherein said selenium compound is ethylselenol.
4. The composition of claim 2, wherein said selenium compound is dimethyl selenide.
7. The composition of claim 2, wherein said gaseous composition consists essentially of hydrogen gas and said odorant.
8. The composition of claim 2, wherein said odorant comprises 0.01 to 1000 ppm of said composition.
9. The composition of claim 2, wherein said odorant comprises 0.1 to 40 ppm of said composition.
10. The composition of claim 2, wherein said odorant is not harmful to humans.
11. The composition of claim 7, wherein said odorant has a minimum olfactory power of 7.0, a minimum vapor pressure of 0.5 psi at standard temperature and pressure, a minimum diffusivity of 0.01147 cm²/s, and a maximum molecular weight of 200 g/mol.
47. The composition of claim 2, wherein said selenium compound is methylselenol.
48. The composition of claim 2, wherein said selenium compound is isopropylselenol.
49. The composition of claim 2, wherein said selenium compound is propylselenol.

50. The composition of claim 2, wherein said selenium compound is ethylmethylselenide.

51. The composition of claim 2, wherein said selenium compound is isopropylmethylselenide.

52. The composition of claim 2, wherein said selenium compound is tertbutylselenol.

53. The composition of claim 2, wherein said selenium compound is diethylselenide.

59. The composition of claim 2, wherein said odorant is in a vapor phase at a pressure greater than ambient pressure.

IX. EVIDENCE APPENDIX

There is no evidence of record other than the references cited by the Examiner during the prosecution of the present application.

X. RELATED PROCEEDING APPENDIX

There have been no decisions rendered by a court or the Board in any proceedings related to this appeal.